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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/756,291	01/09/2001	John R. Evans	PM 275507 PHM70635/US	5974

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EXAMINER
HUI, SAN MING R

ART UNIT	PAPER NUMBER
1617	17

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/756,291	EVANS ET AL.	
	Examiner	Art Unit	
	San-ming Hui	1617	

-- The MAILING DATE f this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 June 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *24-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *24-47,49 and 50* is/are rejected.

7)☒ Claim(s) *48* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *16* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Applicant's amendments filed June 3, 2003 have been entered.

The outstanding rejections under 35 USC 112, first and second paragraph are withdrawn in view of the amendments filed June 3, 2003.

The outstanding objection of claim 32 is withdrawn in view of the amendments filed June 3, 2003.

Claims 24-50 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 24-47, and 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dukes (EP 0 346 014 from the IDS received February 1, 2002) in view of Lehmann et al. (US Patent Re. 28,690), GB 1 569 286 from the IDS received

February 1, 2002 (herein after referred as '286), and Remington (Remington's Pharmaceutical Sciences, 18th ed., 1990, page 219).

Dukes teaches antiestrogen agents, including fulvestrant, are useful in treating postmenopausal symptoms such as urogenital atrophy affecting the vagina (See page 3, lines 56-page 4, line 1; also page 7, line 28-29). Dukes teaches that antiestrogen agent, including fulvestrant, may be used in a dosage of 50mg to 5g in vehicle comprising castor oil and benzyl alcohol (See page 7, line 20-24).

Dukes does not expressly teach the dosage of fulvestrant to be 45mg. Dukes does not expressly teach the employment of benzyl benzoate, in the percent amount of 60% w/v or less, or 50% w/v or less, or 45% w/v or less, 40% w/v or less, or 35% w/v or less, or 30% w/v or less, 25% w/v or less, or 10-25% w/v, or 12-18% w/v, as part of the vehicle herein. Dukes does not expressly teach the total amount of the fulvestrant-containing composition administered. Dukes does not expressly teach weight amount of castor oil and benzyl alcohol. Dukes does not expressly teach the employment of ethanol as part of the vehicle herein. Dukes does not expressly teach the dosage of fulvestrant to be 250mg. Dukes does not expressly teach the plasma concentration of fulvestrant herein.

Lehmann et al. teaches that benzyl benzoate and castor oil are well-known solvent useful as conventional carriers for steroids (See col. 1, line 21-26).

'286 teaches an intramuscular injection of testosterone derivative containing castor oil/benzoate in a ratio of 6:4 (See page 1, line 17).

Remington teaches that ethanol is one of the most commonly used solvents in pharmaceutical industry (See page 219).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ benzyl benzoate, ethanol, castor oil, and benzyl alcohol, in the herein claimed weight percent, with fulvestrant in the dosage herein, in a method of treating postmenopausal symptoms such as urogenital atrophy in the vagina.

One of ordinary skill in the art would have been motivated to employ benzyl benzoate, ethanol, castor oil, and benzyl alcohol, in the herein claimed weight percent, with fulvestrant, in the dosage herein, in a method of treating postmenopausal symptoms such as urogenital atrophy because fulvestrant is known to be useful in treating urogenital atrophy, a benign disease of the female reproductive tract in the vagina. Castor oil and benzyl alcohol are known to be effective as vehicle for fulvestrant. Ethanol is a commonly used pharmaceutical solvent. Benzyl benozate is known to be effective as solvent for steroidal compounds. Since fulvestrant is a estrogen derivative, benzyl benzoate would be reasonably expected to be useful as a solvent for fulvestrant. Therefore, combining one or more agents, which are known to be useful as commonly used solvents, such as benzyl benzoate, ethanol, castor oil, and benzyl alcohol, together and incorporated such combination with an estrogen derivatives, fulvestrant, would be reasonably expected to be useful in formulating a pharmaceutical composition. Furthermore, employing such fulvestrant-containing composition to treat urogenital atrophy in vagina would be reasonably expected to be effective. Moreover, the optimization of result effect parameters (e.g., amount of

excipients, dosage range, and dosing regimens) is obvious as being within the skill of the artisan, absent evidence to the contrary.

One of ordinary skill in the art would have been motivated to maintain the plasma concentration of fulvestrant herein because maintaining the therapeutic plasma level of the active compounds would be considered obvious as being within the purview of the skilled artisan, absent evidence to the contrary.

It is applicant's burden to demonstrate unexpected results over the prior art. See MPEP 716.02, also 716.02 (a) - (g). Furthermore, the unexpected results should be demonstrated with evidence that the differences in results are in fact unexpected and unobvious and of both statistical and practical significance. *Ex parte Gelles*, 22 USPQ2d 1318, 1319 (Bd. Pat. App. & Inter. 1992). Moreover, evidence as to any unexpected benefits must be "clear and convincing" *In re Lohr*, 137 USPQ 548 (CCPA 1963), and be of a scope reasonably commensurate with the scope of the subject matter claimed, *In re Linder*, 173 USPQ 356 (CCPA 1972). In the instant case, unexpected increase of solubility of fulvestrant by adding 15% of benzyl benzoate into the composition with ethanol, benzyl alcohol, and castor oil as carrier is seen (See Table 3). However, the unexpected result is not commensurate of the scope of the broadest claim herein.

Response to Arguments

Applicant's arguments filed June 3, 2003 averring the enhanced and superior solubility achieved by the herein claimed formulation have been fully considered but they are not persuasive. In Dukes, fulvestrant is an exemplified antiestrogen compound.

As the matter of fact, it is the preferred compound (See Dukes, pages 8 and 9, example 2-3). Furthermore, castor oil and benzyl alcohol are the preferred carriers (See page 7, 20-23). Especially in example 3, the concentration of fulvestrant in a benzyl alcohol/castor oil carrier is 50mg/ml (See page 9, lines 40-42).

Applicant's arguments filed June 3, 2003 with regard to Lehmann, '286, and Remington have been fully considered but they are not persuasive. These two references merely point out that benzyl benzoate, ethanol, castor oil, and benzyl alcohol as commonly used solvent for steroidal compounds. Employing these solvents together for formulating an steroidal composition containing fulvestrant (a steroidal compound) would have been reasonably expected to be useful, absent evidence to the contrary.

Applicant's arguments filed June 3, 2003 with regard to Mackey have been considered, but are not found persuasive. As discussed above, Dukes clearly teaches fulvestrant, which is not a prodrug, as useful in combining with castor oil/benzyl alcohol, incorporating other commonly used solvent would be obvious as being within the skill of artisan, absent evidence to the contrary. No such evidence is present herein.

Applicant's arguments filed June 3, 2003 with regard to the addition of benzyl benzoate should reduce the solubility of fulvestrant have been considered, but are not found persuasive (See the discussion above).

Allowable Subject Matter

Unexpected increase of solubility of fulvestrant by adding 15% of benzyl benzoate into the composition with ethanol, benzyl alcohol, and castor oil as carrier is

seen (See Table 3). Therefore, the composition with the specific disclosed ratio of the solvents recited in claim 48 is allowable.

Claim 48 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to San-ming Hui whose telephone number is (703) 305-1002. The examiner can normally be reached on Mon 9:00 to 1:00, Tu - Fri from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, PhD., can be reached on (703) 305-1877. The fax

phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

San-ming Hui
August 22, 2003

SREENI PADMANABHAN
PRIMARY EXAMINER
8/25/03